

Delay Analysis

Prepared for

Phillips Lytle LLP

Marist College Phase 1 Housing Project

**The Pike Company
Contractor**

**Universal Concrete
Precast Panel Subcontractor**

Prepared by

Wagner Hohns Inglis, Inc.

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Enclosures

Enclosure No.1	Richard S. Merkhofer Resume and Work Experience
Enclosure No.2	As-planned v As-Build Comparison Delay Analysis Graphic for Building A.
Enclosure No.3	As-planned v As-Build Comparison Delay Analysis Graphic for Building B.
Enclosure No. 4	UCP's Schedule dated 06-10-15
Enclosure No. 5	Financial Data Supporting Pike's Damages

Introduction

At the request of Phillips Lytle, counsel for The Pike Company (Pike), Wagner Hohns Inglis, Inc. (WHI) prepared a Delay Analysis on the Marist College Phase 1 Housing Project (Project). The purpose of WHI's Delay Analysis is to quantify Critical Path delays caused by Universal Concrete Products (UCP), Pike's Precast Panel Subcontractor. WHI's Delay Analysis focuses on UCP's fabrication, delivery (production) and installation of its Precast Concrete Panels and the impact of the delayed Precast Panel work to Pike's successor Critical Path work, forcing Pike to accelerate its work to meet its contract completion date. In addition, Pike has provided WHI with a tabulation of Pike's and its Subcontractor's damages, resulting from delays caused by UCP. These damages are included in this Report.

It is important to note that WHI had no as-built data for UCP's panel production. The Payment Requisitions were the only source document available to WHI to track UCP's panel production. Therefore, once UCP's actual panel production documentation becomes available to WHI, the conclusions in this Report may change.

WHI reviewed the following documents for the preparation of this Report:

- Project Plans and Specifications/General Conditions
- Project Baseline CPM Schedule and Updates
- UPC Schedule dated 06-10-15
- Payment Requisitions
- Project Correspondence/Emails
- UCP Complaint
- Pike Complaint
- Pike Damages

In addition to the review of the above documents, WHI interviewed Dan DeCarlo-Project Director for Pike, Gloria Ciminelli –Senior Project Manager for Pike.

Richard S. Merkhofer, Executive Director of WHI, prepared this report. Resume and Work Experience is contained in **Enclosure No. 1**

Executive Summary

WHI's Delay Analysis concludes:

- UCP caused an eighty (80) cd production/installation delay (155-75) to the precast panels in Building A.
- UCP caused a twenty six (26) cd delay to the start of its precast panel installation in Building B.
- UCP caused a thirty eight (38) cd production/installation delay (67-29) to the precast panels in Building B.
- In total, UCP caused a sixty four (64) cd precast panel delay (26+38) in Building B
- UCP's Contract Balance (including retainage) **\$926,025**
- Total Pike Back Charges-Acceleration & Weather Protection **\$500,584**
- Total Subcontractor Acceleration 90% Bldg. A, 10% Bldg. B **\$815,123**
- Total Deficiencies and Repairs **\$200,000**
- Total Subcontractor Claims-Liens **\$580,855**
- Disputed Change Order # 5 **\$ 56,968**
- **Total UCP Liability to Pike** **\$1,227,505**

1.0 Delay Analysis Methodology

1.1 As-planned v As-built Comparison Delay Analysis

WHI utilized an As Planned versus As Built Comparison Delay Analysis (APAB) methodology to quantify the Precast Production and Installation delays that occurred on the Project. The APAB is an analysis methodology commonly used in the industry to quantify the impacts/delays to a project. The APAB is a comparison of the contractor's As-Planned Schedule or how the contractor planned to build the project with the contractor's As-Built Schedule or how the contractor actually constructed the project. These comparisons identify the delays, disruption and out of sequence work that occurred on the project.

The APAB prepared by WHI is illustrated with color Graphics, which are comprised of the Project Baseline Schedule and the Project As-Built Schedule. WHI utilized the Project's Baseline CPM Schedule prepared by Pike (See Section 3.0 of this Report) in the APAB. WHI constructed the As-Built schedule using Pike's CPM Schedule Updates to determine when the work was actually performed. **Enclosures No. 2 and No. 3** contains the APAB Graphics for Buildings A and B respectively.

2.0 UCP's Project Schedule dated 06-10-15

Enclosure No. 4 contains UCP's Schedule dated 06-10-15. This Schedule was prepared by UCP and was provided to Pike on or about 06-10-15. Pike utilized this Schedule to prepare its Baseline CPM Schedule dated 08-27-15. See Section 3.0 below. This Schedule is illustrated on the APAB contained in **Enclosures No. 2 and 3.**

3.0 Pike's Baseline CPM Schedule dated 08-27-15

Pike's Baseline CPM Schedule is shown on the APAB contained in Enclosures No. 2 and 3 for Buildings A and B respectively. The top section of the Graphic illustrates Pike's Baseline Schedule with green bars, as shown in the Project Critical Path Method Schedule (CPM), prepared by Pike. The dates over the yellow triangles represent the early start and early finish dates of the work activities.

4.0 As-Built Schedule

Pike's As-built Schedule is shown on the APAB contained in Enclosures No. 2 and 3 for Buildings A and B respectively. The lower section of the graphic illustrates Pike's As-built Schedule with blue bars. The dates over the yellow triangles represent the actual start and actual finish dates of the work activities. To prepare the As-built Schedule, WHI used the actual start and actual completion dates shown in Pike's CPM Schedule updates.

5.0 Delay Analysis

5.1 Building A

WHI's Delay Analysis for Building A, as shown on the APAB contained in Enclosure No. 2, indicates that UCP was to start the installation of its south precast panels on 11-02-15 when Pike's South Building precast deck work was complete. Pike completed the South Building precast deck on 12-16-15, forty four (44) calendar days (cd) later than planned. UCP commenced the South Building precast panel installation on 12-16-15. Therefore, UCP started its precast panel installation on 12-16-15, when Building A was sufficiently complete for the precast panel installation to begin.

The Baseline Schedule shows that UCP was to start Building A precast panel installation on 11-02-15 and complete all panel installation on 01-15-16 or in seventy five (75) cd. This duration is noted on the APAB graphic. The As-built Schedule shows that UCP actually started its panel installation on 12-16-15 and completed all panels on 05-19-16 or in one hundred fifty five (155) cd. This duration is also shown on the APAB. Comparing the as-planned duration with the as-built duration, WHI concludes that UCP caused an eighty (80) cd production/installation delay (155-75) to the precast panels in Building A.

It is important to note that WHI did not have UCP's production logs available for its analysis. WHI could only use UCP's Payment Requisitions for the as-built panel production. The Payment Requisition percent of payment for panel production is shown on the APAB and indicates eighty three percent (83%) payment on 02-22-16, ninety seven percent (97%) on 03-21-16 and one hundred percent (100%) on 04-21-16. Based on these Payment Requisitions, UCP's panels were produced later than required and as a result, UCP's panel production caused delay to the installation of the panels in Building A. In addition, UCP may have also caused additional delay when actually installing the panels. Since WHI cannot specially quantify at this time if it is the production of the panels or the installation of the panels that is causing delay to the Project, WHI has characterized the UCP eighty (80) cd delay as a "production/installation" delays.

As a result of the precast panel delay, Pike could not enclose the Building and install the roof to allow the interior finish work to proceed as planned. To mitigate the precast panel delay, Pike accelerated its work that followed the precast panel installation. Pike has indicated that approximately ninety percent (90%) of Pike's acceleration costs were incurred in Building A. The late enclosure of the Building and installation of the roof can be seen on the as-built schedule in the May-June 2016 time period.

5.2 Building B

WHI's Delay Analysis for Building B, as shown on the APAB contained in Enclosure No. 3, indicates that UCP was to start the installation of its precast panels on 01-20-16 when Pike's 5th floor precast deck work was complete. Pike completed the 5th floor precast deck on 05-19-16, one hundred nineteen (119) calendar days (cd) later than planned. Therefore, UCP should have commenced its precast panel installation on 05-19-16.

UCP should have commenced its precast panel installation of 05-19-16, but did not actually start its precast panel installation until 06-14-16 or twenty six (26) cd later. Therefore, UCP caused a twenty six (26) cd delay to the start of its precast panel installation.

The Baseline Schedule shows that UCP was to start Building B precast panel installation on 01-20-16 and complete all panel installation on 02-11-16 or in twenty three (23) cd. This duration is noted on the APAB graphic. However, UCP's schedule of 06-10-15 shows twenty nine (29) cd panel installation duration. For this Delay Analysis, WHI elected to use the more conservative twenty nine (29) cd duration. The As-built Schedule shows that UCP actually started its panel installation on 06-14-15 and completed all panels on 08-19-16 or in sixty seven (67) cd. This duration is also shown on the APAB. Comparing the as-planned duration with the as-built duration, WHI concludes that UCP caused a thirty eight (38) cd production/installation delay (67-29) to the precast panels in Building B.

It is important to note that WHI did not have UCP's production logs available for its analysis. WHI could only use UCP's Payment Requisitions for the as-built panel production. The Payment Requisition percent of payment for panel production is shown on the APAB and indicates forty percent (40%) payment on 03-21-16, seventy five percent (75%) on 04-30-16 and ninety five percent (95%) on 05-31-16. Based on the Payment Requisitions, UCP's panels were produced later than planned and as a result, UCP's panel production may have caused delay to the installation of the panels in Building B. In addition, UCP may have also caused additional delay when actually installing the panels. Since WHI cannot specially quantify at this time if it is the production of the panels or the installation of the panels that is causing delay to the Project, WHI has characterized sixty four (64) cd delay (26+38) as a "production/installation" delay.

As a result of the precast panel delay, Pike could not enclose the Building and install the roof to allow the interior finish work to proceed as planned. To mitigate the precast panel delay, Pike accelerated its work that followed the precast panel installation. Pike has indicated that approximately ten percent (10%) of Pike's acceleration costs were incurred in Building B.

6.0 Conclusion

WHI's Delay Analysis concludes:

- Pike completed the South Building A precast deck on 12-16-15, forty four (44) calendar days (cd) later than planned. UCP commenced its precast panel installation on 12-16-15, when Building A was sufficiently complete for the precast panel installation to begin.
- UCP caused an eighty (80) cd production/installation delay (155-75) to the precast panels in Building A.
- Based on these Payment Requisitions, UCP's panels were produced later than required and as a result, UCP's panel production caused delay to the installation of the panels in Building A.
- UCP may have also caused additional delay when actually installing the panels for Building A.
- To mitigate the precast panel delay in Buildings A and B, Pike accelerated its work that followed the precast panel installation.
- Pike completed the 5th floor precast deck on 05-19-16, one hundred nineteen (119) calendar days (cd) later than planned. Therefore, UCP should have commenced its precast panel installation on 05-19-16.
- UCP caused a twenty six (26) cd delay to the start of its precast panel installation in Building B.
- UCP caused a thirty eight (38) cd production/installation delay (67-29) to the precast panels in Building B.
- In total, UCP caused a sixty four (64) cd precast panel delay (26+38) in Building B

7.0 UCP's Contract Balance

Base Contract	\$6,699,500
Change Order #1- Maris paid Engineering	\$ (300,000)
Change Order #2-Re-mobilization/survey	\$ 9,232
Change Order #3-Direct Pay #417 June/July	\$ (349,668)
Change Order #4- Direct Pay August	\$ <u>(28,756)</u>
Revised Contract	\$6,030,308
Paid to Date	
UCP Wire Transfer	\$4,452,916
American Iron	\$ 485,219
Iron Worker's #417	\$ <u>166,147</u>
Total Paid to Date	\$5,104,283
Contract Balance (including retainage)	\$ 926,025*

*Prior to Pike's back charge damages (See Section 8.0 below)

8.0 Damages

Enclosure No. 5 contains financial information the supports Pike's damages as outlined below:

8.1 Total Pike's Back Charges-Acceleration & Weather Protection

Pike Personnel 70,006 MH	\$228,133
Pike Travel, Lodge	\$ 43,462
Pike Personnel 1125	\$ 35,181
Pike Travel, Lodge	\$ 10,301
Vendors 70,006 Shop, Weather Protection	\$ 95,460
Vendors 1125 Propane, Weather Protection, Eq	<u>\$ 88,047</u>
Total Pike Back Charges	\$500,584

8.2 Subcontractor Acceleration

Stewarts	\$ 1,681
Kirchoff	\$598,797
Applied	\$ 38,784
TAG	\$ 47,850
Upstate	\$ 359
Titan Steel	\$ 8,683
Otis Elevator	\$ 18,780
Landmark Flooring	\$ 16,009
KSP Painting	\$ 39,130
Debrino	\$ 4,633
ACPI Cabinets	\$ 15,000
Architectural Doors	\$ 3,075
Roundout	<u>\$ 22,342</u>

	Total Subcontractor Acceleration	\$815,123¹
8.3	Deficiencies and Repairs	
	Building A-Repairs Est. 2017	\$50,000
	Building B-Repairs Actual 2016	\$73,875
	Building B-Repairs Est. 2017	<u>\$76,125</u>
	Total Deficiencies and Repairs	\$200,000
8.4	Subcontractor Claims-Liens	
	PRSUS Repair Subcontractor	\$250,874
	Deiner Brick	\$ 83,156
	Herb Speck-Masonry	\$143,719
	FRRT 10 Trucking	<u>\$103,106²</u>
	Total Subcontractor Claims	\$580,855
8.5	Disputed Change Order	
	UCP CO # 5-Direct Pay A1 & 417 August	\$56,968
8.6	UCP's Liability to Pike	
	UCP's Contract Balance	\$926,025
	Pike's Back Charges	\$(500,584)
	Subcontractor Acceleration	\$(815,123)
	Deficiencies and Repairs	\$(200,000)
	Subcontractor Claims	\$(580,855)
	Disputed Change Order #5	<u>\$(56,968)</u>
	Total UCP Liability to Pike	\$1,227,505

¹ Pike has indicated that ninety percent (90%) of the acceleration costs were spent in Building A.

² No verification from subcontractor. Provided by Maris

I hereby certify, the facts and opinions set forth in this report are true and accurate to a reasonable degree of professional certainty, and that WHI has no monetary interest in the outcome of this litigation. WHI reserves the right to amend and/or supplement this Report upon receipt of any additional information regarding this matter. In particular, WHI had no as-built data for UCP's panel production. The Payment Requisitions were the only source document available to WHI to track UCP's panel production. Therefore, once UCP's actual panel production documentation becomes available to WHI, the conclusions in this Report may change.



Richard S. Merkhofer, Executive Director

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